ABSTRACT OF THE DISCLOSURE

A system and method for real-time processing of nondeterministic captured data events. The system includes data capture logic configured to capture data events from a nondeterministic data bus; a system memory including a plurality of addressable locations, where a subset of the plurality of addressable locations is configured as a data event buffer; a DMA transfer engine configured to transfer the captured data events from the data capture logic to a region of the data event buffer as portions of the captured data events become available from the data capture logic; and an application configured to retrieve captured data events from the data event buffer and to display the retrieved data events substantially in real time with respect to the occurrence of the corresponding captured data events on the nondeterministic data bus.